IN THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in this application.

1. (Currently Amended) An assay device comprising:

a substrate and an optically transparent cover, the substrate comprising:

a first surface[[,]];

at least one sample receiving chamber for a liquid sample[[,]];

at least one distributor channel in fluid communication with the at least one sample receiving chamber[[,]];

at least one reaction chamber comprising a recess in the first surface, at least one inflow channel in fluid communication with the at least one distributor channel and the at least one reaction chamber[[,]]; and

at least one vent in fluid communication with the at least one reaction chamber[[,]];

wherein the optically transparent cover seals the first surface and the substrate comprises a material having a glass transition temperature of greater than about 115°C~~, and the substrate comprises at least a portion adjacent the at least one reaction chamber and which has a thermal conductivity of about 0.25 W/m° K. or greater~~.

2. (Original) The assay device of claim 1, wherein the at least one distributor channel and the at least one inflow channel are each dimensioned to enable liquid sample transport therethrough and into the at least one reaction chamber by capillary action.

3. (Currently Amended) The assay device of claim 1, wherein the substrate comprises at least a portion adjacent the at least one reaction chamber and the portion has a thermal conductivity of about 0.5 W/m° K. or greater.

4. (Currently Amended) The assay device of claim 1, wherein the substrate comprises at least a portion adjacent the at least one reaction chamber and the portion has a thermal conductivity of about 1.0 W/m° K. or greater.

5. (Currently Amended) The assay device of claim 1, wherein the substrate comprises at least a portion adjacent the at least one reaction chamber and the portion has a thermal conductivity of about 2.0 W/m° K. or greater.

6. (Currently Amended) The assay device of claim 1, wherein the substrate comprises at least a portion adjacent the at least one reaction chamber and the portion has a thermal conductivity of about 5.0 W/m° K. or greater.

7. (Original) The assay device of claim 1, wherein the at least one reaction chamber comprises a plurality of reaction chambers.

8. (Original) The assay device of claim 7, wherein the substrate comprises an opaque material that is capable of preventing optical cross-tall between the plurality of reaction chambers.

9. (Original) The assay device of claim 1, wherein the substrate comprises a first material and a thermally conductive filler, and the first material comprises a glass, a ceramic, a silicon, a polystyrene, a polyamide, a polyester, a polyethylene, a polyethyleneterephthalate, an acrylonitrile, a cyclic polyolefin, a syndiotactic polystyrene, a liquid crystal polymer, or a combination thereof.

10. (Original) The assay device of claim 1, wherein the substrate comprises a first material and a thermally conductive filler, and the first material comprises a polypropylene, a polycarbonate, or a combination thereof.

11. (Original) The assay device of claim 1, wherein the substrate comprises a thermally conductive filler and the thermally conductive filler comprises carbon black, carbon fiber, metal particles, graphite, talc, boron nitride, or a combination thereof.

12. (Original) The assay device of claim 1, wherein the substrate comprises an aromatic polyester, an aromatic-aliphatic polyester, an aromatic poly (ester-amide), an aromaticaliphatic poly (ester-amide), an aromatic polyazomethines, an aromatic polyestercarbonate, a copolymer thereof, or a combination thereof.

13. (Cancelled)

14. (Original) The assay device of claim 1, further comprising a venting channel, wherein the at least one vent comprises a plurality of vents, the at least one reaction chamber comprises a plurality of reaction chambers, each of the plurality of reaction chambers is respectively in fluid communication with at least one of the plurality of vents, and each of the plurality of vents is in fluid communication with the venting channel.

15. (Original) The assay device of claim 14, wherein each of the plurality of vents comprises a channel that includes a capillary stop, in fluid communication with a respective one of the plurality of reaction chambers and the venting channel.

16-35. (Cancelled)

36. (New) An assay device comprising:

a substrate and an optically transparent cover, the substrate comprising:

a first surface;

at least one sample receiving chamber for a liquid sample;

at least one distributor channel in fluid communication with the at least one sample receiving chamber;

at least one reaction chamber comprising a recess in the first surface, at least one inflow channel in fluid communication with the at least one distributor channel and the at least one reaction chamber; and

at least one vent in fluid communication with the at least one reaction chamber;

wherein the substrate comprises an aromatic polyester, an aromatic-aliphatic polyester, an aromatic poly (ester-amide), an aromatic-aliphatic poly (ester-amide), an aromatic polyazomethines, an aromatic polyester-carbonate, a copolymer thereof, or a combination thereof.